

REMARKS/ARGUMENTS

This Amendment is being filed in response to the Final Office Action dated January 26, 2007. Reconsideration and allowance of the application in view of the remarks to follow are respectfully requested.

Claims 1-14 and 21 are currently pending in the Application.

In the Office Action, claims 1-5, 9, 12-13 and 21 are rejected under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Patent No. 5,669,389 to Rotteveel ("Rotteveel"). Claims 6-8, 10-11 and 14 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Rotteveel in view of U.S. Patent No. 5,738,100 to Yagami ("Yagami"). These rejections are respectfully traversed. It is respectfully submitted that claims 1-14 and 21 are allowable over Rotteveel alone and in view of Yagami for at least the following reasons.

While the final Office Action has maintained the prior rejection of the claims, particularly that the elements 81, 82, 87 and 85 of Rotteveel disclose an overall thermal conductivity of greater than 1 W/M-°K, the Response to Arguments section of the Final Office Action contained on page 4, modifies this rejection in stating that "Rotteveel teaches that the use of a flat filler is

not strictly necessary and that a suitable screening foil, for example aluminum capton can also be placed between the flat filler and the concave acoustic lens. It is well known in the art that aluminum capton has a thermal conductance greater than 1 W/M-°K." No support for the allegation of the thermal conductance of aluminum capton is provided.

Kapton™ is a material produced by Dupont. A review of a datasheet from Dupont regarding the thermal conductivity of Kapton reveals that Kapton has a thermal conductivity of 0.12 W/M-°K (data sheet attached in Appendix A following this amendment). Goodfellow.com reveals that an aluminum filled polyimide has a thermal conductivity of 0.45 W/M-°K (data sheet attached in Appendix B following this amendment). None of these references supports the allegation that "[i]t is well known in the art that aluminum capton has a thermal conductance greater than 1 W/M-°K" as provided in the Final Office Action.

The Manual of Patent Examining Procedure (MPEP) §2131 provides that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. The identical invention must be shown in as complete detail as contained in the claim.

Applicant submits that the Office Action has failed to make a prima facie case of anticipation because the simple recitation of aluminium capton as a screening foil does not satisfy MPEP §2131 as anticipatory with regard to the recitation of "an outer protective shell directly covering said distal end and fabricated from an electrically insulating material having a Thermal Conductance greater than 1 W/M-°K overlaying at least a portion of said distal end" as recited in claim 1 and as substantially recited in each of claims 9 and 21.

If the assertion in the Office Action is in effect that it is inherent that aluminum capton has a thermal conductance greater than 1 W/M-°K, this assertion is respectfully refuted. Applicant respectfully notes that a missing element is inherently present in a reference only if that element necessarily follows from what has been expressly described, and would be so recognized by one of skill in the art. Mere possibilities or even probabilities are not enough; necessity recognized by those of skill in the art is required.¹

¹ The Federal Circuit has clearly set out the standard for inherency in, e.g., *Continental Can Co. v. Monsanto Co.*, 20 U.S.P.Q.2d 1746, 1749 (Fed. Cir. 1991)(emphasis added):

To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence. Such evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference and that it would be so recognized by persons of ordinary skill. *In re Oelrich*, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981) (quoting *Hansrigg v. Kemmer*, 40 U.S.P.Q. 665, 667 (C.C.P.A. 1939)) provides: "Inherency,

The M.P.E.P. echoes this case law.

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic.

M.P.E.P. § 2112 (emphasis in original)(citations omitted).

Further, the following is also emphasized:

In relying upon the theory or inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teaching of the applied prior art.

M.P.E.P. § 2112 (emphasis in original)(citations omitted).

It is well established that a recited element or step is inherently present in a prior art reference only if that element is necessarily present or necessarily performed in that reference, and further that its presence or performance would be recognized by one of ordinary skill in the art from what has been expressly described. Second, the Office Action must provide objective

however may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient."
This citation is also set out in M.P.E.P. § 2131.01(d).

evidence or cogent technical reasoning to support a contention of inherency.

Accordingly, it is respectfully submitted that the Final Office Action has failed to make a prima facie case that Rotteveel anticipates each of claims 1, 9 and 21.

While Yagami is cited for showing alumina covering a transducer positioned at a distal end of an endoscope and a thermal conductance greater than $1 \text{ W/M-}^\circ\text{K}$, approximately $30 \text{ W/M-}^\circ\text{K}$ (see, final Office Action, page 4), it is respectfully submitted that reliance on Kagami for this feature is misplaced. As a first point, Yagami does not disclose a transducer positioned at a distal end of an endoscope (see, FIG. 1 cited in the Final Office Action and transducer 11).

Further, while the Applicants have identified a need for a material, such as a given ceramic having a high thermal conductivity as described on page 4 of the present application (as cited in the Final Office Action), it is improper for the Final Office Action to utilize the teachings of the present patent application as support for the current rejection of the claims. Attached hereto in Appendix C is a table previously provided in the Amendment submitted on December 12, 2007, showing that alumina has

a thermal conductance of $0.276 \text{ W/cm}^\circ\text{K}$. Converting this thermal conductance to $\text{W/M}^\circ\text{K}$ it is concluded that alumina has a thermal conductance of $0.00276 \text{ W/M}^\circ\text{K}$. Accordingly, even in combination, it is respectfully submitted that Rotteveel alone and in view of Yagami does not disclose or suggest the present system as recited in each of claims 1, 9 and 21.

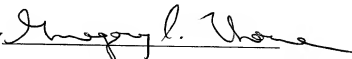
Based on the foregoing, the Applicant respectfully submits that independent claims 1, 9 and 21 are patentable over Rotteveel alone and in view of Yagami and notice to this effect is earnestly solicited. Claims 2-8 and 10-14 respectively depend from one of claims 1 and 9 and accordingly are allowable for at least this reason as well as for the separately patentable elements contained in each of the claims. Accordingly, separate consideration and allowance of each of the dependent claims is respectfully requested.

In addition, Applicant denies any statement, position or averment of the Examiner that is not specifically addressed by the foregoing argument and response. Any rejections and/or points of argument not addressed would appear to be moot in view of the presented remarks. However, the Applicant reserves the right to submit further arguments in support of the above stated position,

should that become necessary. No arguments are waived and none of the Examiner's statements are conceded.

Applicant has made a diligent and sincere effort to place this application in condition for immediate allowance and notice to this effect is earnestly solicited.

Respectfully submitted,

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